

DIVER1510WO-1.ST25.txt
SEQUENCE LISTING

<110> DIVERSA CORPORATION
 SHORT, Jay

<120> WHOLE CELL ENGINEERING BY MUTAGENIZING A SUBSTANTIAL PORTION OF A STARTING
GENOME, COMBINING MUTATIONS, AND OPTIONALLY REPEATING

<130> DIVER1510WO-1

<140> PCT/US 01/19367
<141> 2001-06-14

<150> US 09/677,584
<151> 2000-09-30

<150> US 09/594,459
<151> 2000-06-14

<160> 33

<170> PatentIn version 3.0

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<212> DNA
<213> Escherichia coli

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<211> 476

<212> PRT

<213> Escherichia coli

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Asn	Val	Ala	Ala	Gln	Leu	Ala	Lys	Tyr	Ser	Gly	Lys	Ser	Ile	Thr	Ile
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Ser	Ser	Glu	Gly	Ser	Glu	Ala	Met	Gln	Glu	Gly	Ala	Tyr	Arg	Phe	Tyr
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Arg	Asn	Pro	Asn	Val	Ser	Ala	Glu	Ala	Ile	Arg	Lys	Ala	Gly	Ala	Met
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Gln	Thr	Val	Lys	Leu	Ala	Gln	Glu	Phe	Pro	Glu	Leu	Leu	Ala	Ile	Glu
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Asp	Thr	Thr	Ser	Leu	Ser	Tyr	Arg	His	Gln	Val	Ala	Glu	Glu	Leu	Gly
					100		105			110					

Lys	Leu	Gly	Ser	Ile	Gln	Asp	Lys	Ser	Arg	Gly	Trp	Trp	Val	His	Ser
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Gln Glu Trp Trp Met Arg Pro Asp Asp Pro Ala Asp Ala Asp Glu Lys
145 150 155 160
Glu Ser Gly Lys Trp Leu Ala Ala Ala Thr Ser Arg Leu Arg Met
165 170 175
Gly Ser Met Met Ser Asn Val Ile Ala Val Cys Asp Arg Glu Ala Asp
180 185 190
Ile His Ala Tyr Leu Gln Asp Arg Leu Ala His Asn Glu Arg Phe Val
195 200 205
Val Arg Ser Lys His Pro Arg Lys Asp Val Glu Ser Gly Leu Tyr Leu
210 215 220
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225 230 235 240
Ile Pro Gln Lys Gly Val Val Asp Lys Arg Gly Lys Arg Lys Asn Arg
245 250 255
Pro Ala Arg Lys Ala Ser Leu Ser Leu Arg Ser Gly Arg Ile Thr Leu
260 265 270
Lys Gln Gly Asn Ile Thr Leu Asn Ala Val Leu Ala Glu Glu Ile Asn
275 280 285
Pro Pro Lys Gly Glu Thr Pro Leu Lys Trp Leu Leu Leu Thr Gly Glu
290 295 300
Pro Val Glu Ser Leu Ala Gln Ala Leu Arg Val Ile Asp Ile Tyr Thr
305 310 315 320
His Arg Trp Arg Ile Glu Glu Phe His Lys Ala Trp Lys Thr Gly Ala
325 330 335
Gly Ala Glu Arg Gln Arg Met Glu Glu Pro Asp Asn Leu Glu Arg Met
340 345 350
Val Ser Ile Leu Ser Phe Val Ala Val Arg Leu Leu Gln Leu Arg Glu
355 360 365
Ser Phe Thr Leu Pro Gln Ala Leu Arg Ala Gln Gly Leu Leu Lys Glu
370 375 380
Ala Glu His Val Glu Ser Gln Ser Ala Glu Thr Val Leu Thr Pro Asp
385 390 395 400
Glu Cys Gln Leu Leu Gly Tyr Leu Asp Lys Gly Lys Arg Lys Arg Lys
405 410 415
Glu Lys Ala Gly Ser Leu Gln Trp Ala Tyr Met Ala Ile Ala Arg Leu
420 425 430
Gly Gly Phe Met Asp Ser Lys Arg Thr Gly Ile Ala Ser Trp Gly Ala
435 440 445
Leu Trp Glu Gly Trp Glu Ala Leu Gln Ser Lys Leu Asp Gly Phe Leu
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Ala Ala Lys Asp Leu Met Ala Gln Gly Ile Lys Ile
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<210> 3
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<220>
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<220>
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<223> n is A, T, G, or C

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<210> 4
<211> 30
<212> DNA
<213> Artificial sequence

<220>
<223> Defined sequence kernel

<220>
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<223> n is A, T, G, or C

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<212> PRT
<213> Artificial sequence

<220>
<223> Antibody spacer peptide. The entire peptide sequence can be
repeated more than one time

<400> 5

Gly Gly Gly Gly Ser
1 5

<210> 6
<211> 14
<212> DNA
<213> Artificial sequence

<220>
<223> Tetradecanucleotide d

<400> 6
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<210> 7
<211> 21
<212> DNA
<213> Artificial sequence

<220>
<223> 21-mer d

<400> 7
aaatttgca catcctgcag c

21

<210> 8
<211> 12
<212> DNA
<213> Artificial sequence

<220>
<223> 12-mer target DNA

<400> 8
agcctagctg aa

12

<210> 9
<211> 12
<212> DNA
<213> Artificial sequence

<220>
<223> Complement of the original 12-mer target

<400> 9
tcggatcgac tt

12

<210> 10
<211> 4
<212> PRT
<213> Artificial sequence

<220>
<223> Target sequence

<220>
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<222> (3)..(3)
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<400> 10

Tyr Tyr Xaa Tyr
1

<210> 11
<211> 4
<212> PRT
<213> Artificial sequence

<220>
<223> Single base mismatched probe

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<400> 11

Tyr Tyr Tyr Tyr
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<210> 12

<211> 4

<212> PRT

<213> Artificial sequence

<220>

<223> 4-mer extemtion probe

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<221> VARIANT

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<223> Xaa is any Amino Acid

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Tyr Xaa Tyr Tyr
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<210> 13

<211> 10

<212> DNA

<213> Artificial sequence

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<223> BstNB I cleaves btw. nucleotide 9 & 10 of target sequence

<220>

<221> misc_feature

<222> (6)..(10)

<223> n is any nucleotide

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10

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14

223

DNA

Artificial sequence

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<221> misc_feature

<222> (1)..(223)

<223> n is any nucleotide

<220>

<221> misc_feature

<222> (1)..(10)

<223> at least one nt. of nt. 1-10 is present

<220>

<221> misc_feature

<222> (21)..(120)

<223> at least one nt. of nt. 21-120 is present

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<220>
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<222> (124)..(223)
<223> nt. 124-223 are optionally present

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<210> 15
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<212> DNA
<213> Artificial sequence

<220>
<223> Revers primer

<220>
<221> misc_feature
<222> (1)..(215)
<223> n is any nucleotide

<220>
<221> misc_feature
<222> (1)..(10)
<223> at least one nt. of nt. 1-10 is present

<220>
<221> misc_feature
<222> (16)..(115)
<223> at least one nt. of 16-115 is present

<220>
<221> misc_feature
<222> (116)..(215)
<223> nt. 116-215 are optionally present

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 180
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<210> 16
<211> 123
<212> DNA
<213> Artificial sequence

<220>
<223> Forward primer with 10-100 template specific sequence

<220>
<221> misc_feature

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<222> (24)..(123)
<223> n is any nucleotide

<220>
<221> misc_feature
<222> (34)..(123)
<223> nt. 34-123 are each optionally present

<400> 16
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nnn
60
120
123

<210> 17
<211> 121
<212> DNA
<213> Artificial sequence

<220>
<223> Reverse primer with 10-100 nt long template specific sequence

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<221> misc_feature
<222> (22)..(121)
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<220>
<221> misc_feature
<222> (32)..(121)
<223> nt. 32-121 are each optionally present

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n
60
120
121

<210> 18
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<212> DNA
<213> Artificial sequence

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<400> 18
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<210> 19
<211> 21
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<223> Reverse primer

<400> 19

gatcaaaggc gcgcctgcag g

<210> 20
 <211> 15
 <212> PRT
 <213> Artificial sequence

<220>
 <223> Linker peptide

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<220>
 <223> Protogenitor template 124-2d

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 aatgcctttt gtgacggacg tcgcccgtg 150

<210> 22
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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Protogenitor template 12412

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 attccccacg ttgccggctt gggacgctg 149

<210> 23
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 <212> DNA
 <213> Artificial sequence

<220>
 <223> Protogenitor template 124-1d

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<210> 24
<211> 150
<212> DNA
<213> Artificial sequence

<220>
<223> Protogenitor template mycol

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<212> DNA
<213> Artificial sequence

<220>
<223> Protogenitor template b3

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<210> 26
<211> 150
<212> DNA
<213> Artificial sequence

<220>
<223> Protogenitor template b1

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